

Made Easy For Digital Entrepreneurs

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Legal Notices

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Simply Stated: Your liability is *yours and yours alone*.

Brief Word From The Editor

When I first got involved with cryptocurrencies back in 2013, things were a whole lot more geeky and less user-friendly. Not being a coder by any measure, it made it all the more highly challenging to figure stuff out.

Back then, crypto wallets were typically very cumbersome and the whole process of going between crypto and fiat was excruciatingly painful.

My oh my, how times have changed over the last five years!

Enough developers finally figured out that if crypto was to go mainstream, it had to get a LOT easier for the average end user. And aside from the initial KYC/AML identity verification hoop-jump required by US-compliant service providers... the whole process of converting between crypto and fiat has also finally become user friendly.

Between those two factors and the Bitcoin popularity explosion toward the end of 2017 (when Bitcoin very nearly hit an **eye-popping \$20K** at its peak)... crypto had made it into the mainstream at last!

Now, things are moving SO fast in the crypto space that even if you were to spend 8 hrs a day/6 days a week diligently researching all of the latest news, reviews, and crypto scuttlebutt - *you'd barely even scratch the surface*.

Hence this handy little guide is not trying to be “all things to everyone”; its sole aim is to solve *one specific perplexing problem* facing most digital entrepreneurs and marketers: How to get in on this mad-hot multi-billion dollar action without having to spend insane amounts of time figuring it all out.

May this open up whole new venues of profitability for you!

Mark Maffei

Brilliant Crypto Cart Integration Strategy



Brief Introduction & Overview

[PayBear](#) is an fairly new **open source** payment solution that allows you to directly accept cryptocurrency payments *straight into a wallet of your choosing*.



Key PayBear Benefits & Features:

- Get up and running in mere minutes with the WooCommerce, PrestaShop, or OpenCart plugin.
- Customize it to *suit* with PayBear's [easy API and docs](#) (including NodeJS, Ruby, and PHP).
- Unlike fiat gateways (i.e. PayPal), crypto payments guarantee **no chargeback fraud** while offering *superior privacy and security* to both the customer and merchant.
- Also unlike PayPal, **all businesses are permitted** (MLM, gambling, adult, biz op, et al).
- PayBear offers the *lowest fees in the industry* (USD\$0.008 sending fee) plus **actual tx fee** paid directly to the Ethereum network.
- There's only a modest 0.001 ETH minimum price tag limit and no maximum price tag limit; whereby making it suitable for both big and small ticket items.
- At the time of this writing, PayBear currently supports **seven wildly popular high-liquidity cryptocurrencies** (Bitcoin, Litecoin, Bitcoin Cash, Bitcoin Gold, Dash, Ethereum, and Ethereum Classic) with lots more upcoming!
- You can send your payments directly to any wallet or exchange you so choose (**Tip:** Exodus is 100% compatible with all seven of the above cryptocurrencies supported by PayBear).
- Since PayBear only needs your public wallet addresses, your private keys **stay in YOUR possession** at all times (just as it should be)!
- Consequently, PayBear *does not hold or store your money*; all your funds are sent directly to your wallet on a **per-sale basis** via the Ethereum network.

In the following section, we'll be exploring the inner workings of the Ethereum network as it relates to using PayBear, which rides on top of Ethereum.

So without any further ado, let's get to it!

Understanding The Ethereum Network Simplified

Brief Introduction

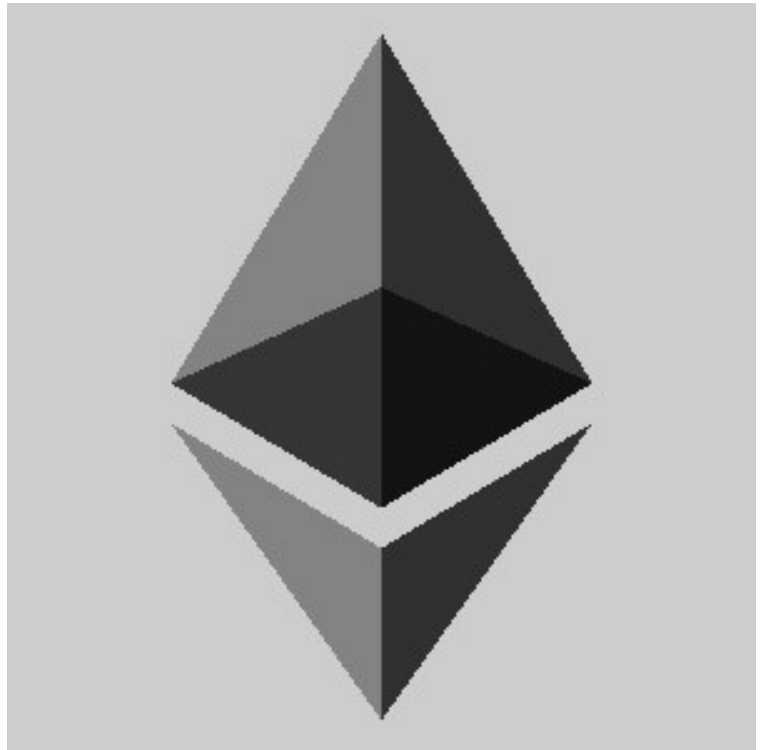
The PayBear payment gateway rides on top of the Ethereum network, which also just happens to be the 2nd most popular crypto in the world at this writing.

So it's definitely good to understand at least the core Ethereum basics.

Ethereum is the blockchain network of **Ether** (ETH), which is the "fuel" for that network.

When you do anything on the Ethereum blockchain (i.e. send tokens, interact with a smart contract or send coins)...

You must pay for that computation; calculated in **Gas** and paid in **ETH**.



This is why you still pay for the computation, *regardless of whether your transaction succeeds or fails*.

Since miners validate and execute your transaction (computation) *even if it fails*, the Gas is still consumed either way; because the transaction still gets added to the blockchain.

Ethereum "Gas" Explained

When you hear Ethereum "Gas" talked about, the person is either talking about **Gas Limit** or **Gas Price**. The *total cost of a transaction* (the actual "TX fee") is **Gas Limit * Gas Price**.

Typically, if someone just says "Gas", they are talking about the "Gas Limit". You can think of the Gas Limit like the amount of liters/gallons of gas for a car. You can think of the Gas Price as the cost of that of gas.

For example:

- With a car, it'd be dollars/euros (price) per gallon/liter (unit).
- With Ethereum, it's **GWEI** (price) per Gas (unit).

- So to fill up your Ethereum "tank" and successfully send a token across the Ethereum network typically takes ~50000 Gas to ~100000 Gas; hence the total TX fee in this case would be 0.001-0.002 ETH.

The “Medium” transaction speed in PayBear (4 GWEI) is the ‘happy medium’ between ensuring that your transactions get processed *in a timely manner* and saving you a **freakishly ginormous 80% off** the TX fees of the “Fast” setting (20 GWEI)!

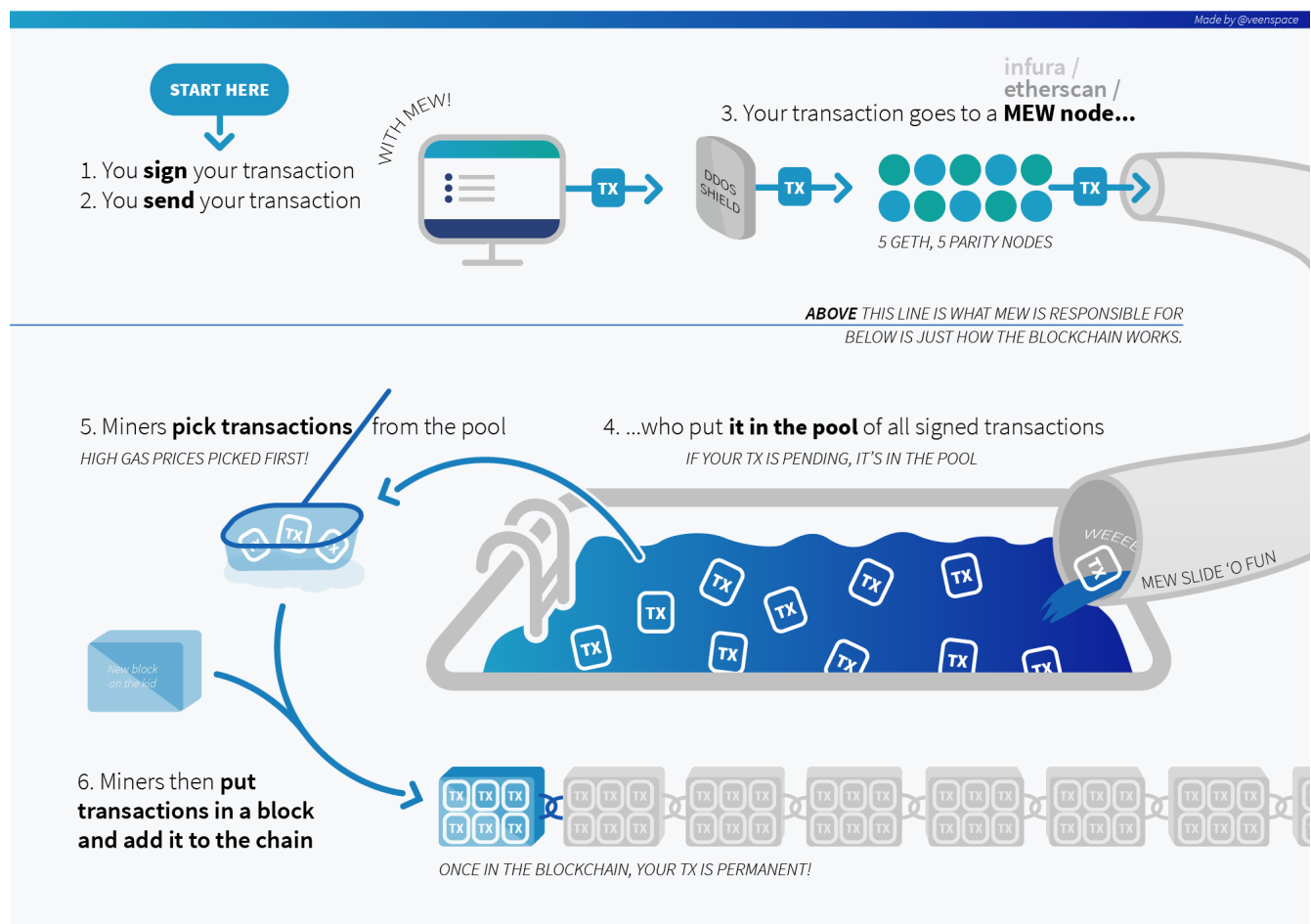
Pro Tip: Use [this handy tool](#) any time you need to calculate your TX fee between ETH and GWEI; and [this handy tool](#) to convert between ETH and AUD, BTC, CAD, EUR, GBP, INR, JPY, SEK or USD.

To help visualize the transaction process...



MyEtherWallet Behind-The-Scenes

Made by @veenspace



Gas Limit

Gas Limit is the maximum amount of Gas you are willing to spend on a transaction; whereby avoiding situations where there is an error in the contract, and you keep spending Gas just driving around in circles... yet never actually arrive at a successfully-completed transaction.

Because the necessary Gas for a transaction is pre-defined by *how much code is executed on the blockchain...* lowering the Gas Limit is moot since you still need enough Gas to cover computational resources used (lest your transaction fails due to the dreaded **Out of Gas** Error).

Also, all unused Gas is refunded to you at the end of a **standard transaction**. For example, if you were to spend 1 ETH buying stuff online and use a Gas Limit of 400000, you will receive 400000 – 21000 back (21000 is the Gas Limit for standard transactions).

However, if you were sending 1 ETH to a **smart contract** and your *transaction fails* (i.e. the Token Creation Period is over)... you'll be out the entire 400000 Gas. Ouch!

Moral: Exercise *extreme caution* when sending to smart contracts. On the upside, the Exodus wallet takes care of all these gory little details for you (hence the 0.03 ETH recommended threshold to engage with Ethereum).

Gas Price

So now that we covered Gas Limit, let's talk a bit about Gas Price. If you want to spend less on a transaction, you can do so by lowering *the amount you pay per unit* of Gas. However, miners can pick and choose what transactions they're willing to mine (just like Bitcoin and numerous other altcoins).

For instance, they can choose to include transactions at a minimum TX fee value or they can choose to randomly select transactions; hence you'll want to set the Gas Price high enough so that a miner includes your transaction in a timely manner.

PayBear Transaction Speeds During Normal Times

- 20 GWEI Gas Price will almost always get you into the next block.
- 4 GWEI Gas Price will usually get you within the next few blocks.
- 1 GWEI Gas Price will usually get you within the next half hour or less.

Therefore:

- The 20 GWEI "Fast" TX fee setting in PayBear lets you jump to the front of the line (like paying a huge premium for for Fed Ex Overnight).

- Whereas the 4 GWEI “Medium” TX speed setting in PayBear will save you a well-deserved **80% off** the TX fees and still get your transaction processed in a timely manner.

A standard ETH transaction that used to be a penny or two (at 20 GWEI) now costs a LOT more; hence it's your **moral obligation** to set TX speed to the “Medium” TX speed in PayBear (i.e. 4 GWEI).

Why so?

Simple crypto-economics: Lower Gas Prices more often = more miners having to take what they can get just to stay competitive, pure and simple.

Note: During times of heavy trading or Token Creation Periods, transaction processing times can be significantly longer; so fret not.

A Brief Word On Token Sales

While still on the subject of Gas, there's a few things you should know before getting involved in the *wildly lucrative* Ethereum token space...

- First off, always determine if the token sale has a **max gas price**. If so, always put exactly the Gas the token sale holders tell you to put. If you're not 100% sure, then ask **before** the token sale. This ensures that your transaction won't fail due to the dreaded "**Out of Gas**" error.
- Conversely, if they let you set your own Gas Price... then you need to determine your own **appetite for risk** (i.e. how much you're willing to invest AND how much you are willing to spend *on the attempt to invest*).
- Also, increasing the amount to some crazy-chicken amount like 1.5M Gas or more **will not** increase the likelihood of getting in. All you'll end up doing is *filling up blocks faster and making miners richer*; because you still burn the Gas either way – **even if the transaction fails**.

So **always** exercise basic due diligence first, before getting involved with a token sale; because *Gas will NOT be returned to you* if you send with a too-low Gas Limit, too early, or too late in the Token Creation Period.

During Token Creation Periods:

- Sending more Gas than the **max gas price** during the new Token Creation Period you're interested in will result in your TX failing (i.e. you will lose your TX fee and end up missing out). So always KNOW what the Token Creation Period **max gas price** is **before** said Token Creation Period begins!
- Whatever the posted **max gas price** for the token sale you're interested in is - **that** is *exactly the amount you should send in that case and no more*. Conversely, any lower and you risk missing out (and you'll still lose your TX fee to boot).

- ALWAYS assume that you will pay the full TX fee and **get nothing in return** during Token Creation Periods: In other words, **Gas Limit * Gas Price** (in GWEI) is how much you will pay for your attempt to get in; *regardless of the outcome*.

D	E	G	H	I	J	K	L	M	N	O
		ETH	GAS LIMIT	GAS PRICE	gasUsed	TX FEE ETH	TX FEE USD (\$220)			
TOTAL	ETH	836,123.114237	3 191 817 138	2552 704 730 915 780	3 156 573 667	ETH 376.718066	\$ 82,877.97			
TOTAL SUCCESS	ETH	156,250.00	44 470 516	1404 305 480 936 960	9 227 045	ETH 69.974889	\$ 15,394.48			
TOTAL ERROR	ETH	679,873.114237	3 147 346 622	1148 399 249 978 820	3 147 346 622	ETH 306.743178	\$ 67,483.50	total fees for failed TXs.		
AVERAGE	ETH	84.747934	323 517	258 737 556 347	319 945	ETH 0.038183	\$ 8.40			
AVERAGE SUCCESS	ETH	844.594595	240 381	7 590 840 437 497	49 876	ETH 0.378243	\$ 83.21	~7000 GWEI is the gas price you should have used to ensure you get in. 20 GWEI is average. 🙄		
AVERAGE ERROR	ETH	70.227571	325 106	118 624 031 606	325 106	ETH 0.031685	\$ 6.97			
MEDIAN	ETH	5.00	200 000	30 000 000 000	200 000	ETH 0.006	\$ 1.32			
MEDIAN SUCCESS	ETH	102.00	200 000	180 000 000 000	49 957	ETH 0.008992	\$ 1.98			
MEDIAN ERROR	ETH	5.00	200 000	30 000 000 000	200 000	ETH 0.006	\$ 1.32			
SMALLEST	ETH	0	49 958	40 000 000 000	34 957	ETH 0.001998	\$ 0.44			
SMALLEST SUCCESS	ETH	0	49 958	40 000 000 000	34 957	ETH 0.001998	\$ 0.44			
SMALLEST ERROR	ETH	0	21 000	2 000 000 000	21 000	ETH 0.000345	\$ 0.08			
LARGEST	ETH	45,000.00	4 462 792	580 000 000 000	4 462 792	ETH 28.97506	\$ 6,374.51			
LARGEST SUCCESS	ETH	20,522.421	1 500 000	580 000 000 000	49 957	ETH 28.97506	\$ 6,374.51			
LARGEST ERROR	ETH	45,000.00	4 462 792	116 496 081 860 000	4 462 792	ETH 27.287306	\$ 6,003.21	ouch!		

That's right. Someone paid a painful **\$6000+ to send a failed transaction**. Ouch, indeed!

Pro Tip: You can manually [override the Gas Price](#) on MyEtherWallet in the footer via the slider. By default, it's capped at 50 GWEI in order to prevent blooming idiots who don't exercise simple due diligence from trying to over-send to Token Creation Periods and having all their transactions fail.

Go [here](#) to see what miners are currently accepting, along with a wealth of other highly useful visual information eye candy. At the time of this writing, below 2 GWEI is the “hitchhiker” lane.

H/T to [MyEtherWallet.github.io](https://myetherwallet.github.io) for the core Ethereum research included herein.